Western Watersheds Project ● Center for Biological Diversity ● American Bird Conservancy ● WildEarth Guardians ● Wild Utah Project

May 1, 2017

Bureau of Land Management
Fillmore Field Office
Attn: Cheryl LaRoque
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Submitted via email

Subject: DOI-BLM-UT-W020-2017-0001-EA (September 2017 Oil Gas Lease Sale)

Dear Ms. LaRoque:

Western Watersheds Project (WWP), Center for Biological Diversity, American Bird Conservancy, WildEarth Guardians, and Wild Utah Project are pleased to provide these comments in response to the Bureau of Land Management's (BLM's) request for comments on the Fillmore Field Office's (FFO's) September 2017 Oil and Gas Lease Sale Environmental Assessment (EA).

Western Watersheds Project is a non-profit organization with more than 5,000 members and supporters. Our mission is to protect and restore western watersheds and wildlife through education, public policy initiatives and legal advocacy. Western Watersheds Project and its staff and members use and enjoy the public lands and their wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project also has a direct interest in mineral development that occurs in areas with sensitive wildlife populations and important wildlife habitat.

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center also works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. The Center has over 1.1 million members and on-line activists, including those living in Utah who have visited these public lands in the West Desert District for recreational, scientific, educational, and other pursuits and intend to continue to do so in the future, and are particularly interested in protecting the many native, imperiled, and sensitive species and their habitats that may be affected by the proposed oil and gas leasing.

American Bird Conservancy (ABC) is a 501(c)(3) non-profit organization whose mission is to conserve native birds and their habitats throughout the Americas. It achieves this by safeguarding the rarest bird species, restoring habitats, and reducing threats to bird species. ABC has more than 8,000 individual members and 30,000 constituents. ABC's members, supporters, and activists enjoy viewing, studying, and photographing migratory and resident birds.

WildEarth Guardians works to protect and restore the wildlife, wild places, wild rivers, and health in the American West. Through its Climate and Energy Program, Guardians works to

advance a transition from fossil fuels to clean energy in order to protect western public lands and reduce the greenhouse gas emissions that are causing climate change. Guardians has over 200,000 members and supporters, including over 2,500 in Utah.

Wild Utah Project strives to provide non-profit partners and public agencies with the best available and up-to-date science to advance conservation across Utah. We fill data gaps and holes in the ecological literature, address threats to wildlife habitats through informing policy decisions via science, provide our partners with scientific support for their conservation strategies, and engage citizens in conservation science and advocating for science-informed decisions. We seek to bring about positive outcomes for wildlife and lands through science. As long-time, prominent voices within the Utah conservation community, we enthusiastically bridge the divide between scientific knowledge and public understanding by demonstrating collaborative expertise and tenacious persistence.

I. Background:

We are greatly concerned that the BLM's Fillmore Field Office has proposed leasing nine parcels comprising 14,943.09 acres, including portions of the Sheeprock Mountain Sage-Grouse Management Area (Sheeprock SGMA) that are now managed as Priority Habitat Management Areas (PHMAs).[1] The Sheeprocks sage-grouse population is dwindling rapidly and is at high risk of local extirpation. It defies common sense for the BLM to propose leasing its habitat for oil and gas development less than two months after announcing that the rapid population decline had triggered additional conservation measures and mandatory adaptive management of its habitat. *See* BLM Press Release 2017.

The Sheeprock SGMA was identified as "high risk" in the 2013 Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report (COT Report)[2]. COT Report at 70. At that time the Sheeprocks sage-grouse population had four of five negative indicators for Population Abundance and Estimated Quasi-Extinction Risk.[3] COT Report at 20. Since then, the male greater sage-grouse population in the Sheeprock SGMA "has experienced a nearly 40 percent decrease in population over the last four years, with an annual decrease in eight of the last ten years." BLM Press Release 2017. As a result, all five negative indicators for Population Abundance and Estimated Quasi-Extinction Risk are now present.

The Sheeprocks population of greater sage-grouse was also identified as small and isolated by the U.S. Fish and Wildlife Service (FWS) in 2015. FWS 2015 at 59928. FWS stated that small, isolated populations are more susceptible to impacts and relatively more vulnerable to extinction,

[1] PHMAs are "BLM-administered lands identified as having the highest value to maintaining sustainable GRSG [greater sage-grouse] populations." See I-5 of BLM (2015). Utah Greater Sage-Grouse Approved RMP Amendment.

[2] The COT Report was prepared by the Conservation Objectives Team, a panel of state and U.S. Fish and Wildlife Service (USFWS) experts chosen to develop range-wide conservation objectives for the sage-grouse to define the degree to which threats need to be reduced or ameliorated to conserve sage-grouse so that it is no longer in danger of extinction or likely to become in danger of extinction in the foreseeable future. COT Report at 5.

[3] These indicators are <200 Males/500 birds, % Chance of <50 birds/20 males in 2037, % Chance of <500 birds/200 miles in 2037, % Chance of less than 50 birds/20 miles in 2017, % Chance of <500 birds/200 males in 2017. COT Report at 20.

and that these risks can increase as population size decreases. FWS at 59926-59927. One example of these risks is the loss of high-quality habitat due to vegetation conversion caused by climate change. Balzotti, et al. (2016) found that nearly half of the Sheeprock SGMA is at high risk for conifer encroachment and invasive grass triggered by climate change. Balzotti at 13.

Given the precarious state of the Sheeprocks sage-grouse population, allowing new oil and gas leasing inside the Sheeprock SGMA is highly risky. First, both the Utah Greater Sage-Grouse Approved Resource Plan Amendment (Utah ARMPA) and the COT Report identified energy development as a present and widespread threat to the Sheeprocks sage-grouse population. Utah ARMPA at 1-10 and COT Report at 20. Second, not only is the Sheeprocks sage-grouse population unstable, but "[s]age-grouse populations can be significantly reduced, and in some cases locally extirpated, by non-renewable energy development activities, even when mitigative measures are implemented" COT Report at 10, citing Walker et al 2007. Third, extirpation of the Sheeprocks sage-grouse population would make recovery of the greater sage-grouse as a whole more difficult by reducing management and recovery options in portions of the species' range, as the COT Report notes has already occurred in Washington state's Columbia Basin. COT Report at 32.

Allowing oil and gas leasing in the Sheeprocks SGMA also risks the substantial public and private investment that has been made in order to increase Sheeprocks sage-grouse numbers. In 2016, Deseret News reported that nearly $1 million was being spent to restore habitat for Sheeprocks sage-grouse, an effort involving 15 partners and 16,000 acres of land. *See* O'Donoghue 2016. The multi-year effort to reverse the alarming population decline has included tree removal and relocating greater sage-grouse from other regions of Utah to the Sheeprocks area. *See* Utah DNR 2016 and Henrie 2016.

Beyond the requirements of law, the Sheeprocks greater sage-grouse population is important to save because it is a key part of the natural heritage of every American. Greater sage-grouse is the largest North American grouse species and one of only two sage-grouse species in the world. COT Report at 6.

II. The BLM should withdraw Parcels 001, 002, 003, and 007 from this lease sale because they include Priority Habitat Management Area (PHMA) for a sage-grouse population that the BLM has stated is in jeopardy.

Parcels 001, 002, 003, and 007 should be withdrawn from the lease sale because they contain PHMA for a population of sage-grouse that the BLM itself has declared is "in jeopardy" based on declining population trends over the previous eight years. *See* BLM Decision Record for the Government Creek Greater Sage-Grouse Habitat Improvement Project at 3. In addition, the EA for this proposed lease sale acknowledges that the BLM does not know the level of sage-grouse use in the proposed lease parcels. EA at 23. This lack of knowledge increases the level of risk, especially since the State of Utah's Division of Wildlife Resources has records of past sage-grouse sightings near these parcels. Appendix 1. Without recent surveys for sage-grouse use throughout all of the proposed lease parcels, the BLM simply does not have the information needed to safely offer this area for lease.

Offering Sheeprocks PHMA for oil and gas leasing also is inconsistent with the BLM's past standard for Sheeprocks sage-grouse habitat preservation as little as a year ago. According to the April 2016 Decision Record for the Firebirds Motorcycle Race (Firebirds DR), "The maintaining and restoration of sage-grouse habitat in the Sheeprocks PHMA and GHMA are a priority for the BLM." The Firebirds DR further states, "No race starts shall occur within sagebrush habitat." Firebirds DR at 4. That is a stronger preservation standard than this proposed lease sale's EA, which has No Surface Occupancy (NSO) leasing stipulations that allow exception and waiver.

III. The BLM should withdraw Parcels 001, 002, 003, and 007 from this lease sale because they include Priority Habitat Management Area (PHMA) that has not been assessed adequately under Instruction Memorandum 2016-143's prioritization requirements.

The BLM's Instruction Memorandum 2016-143: Implementation of Greater Sage-Grouse Resource Management Plan Revisions or Amendments – Oil and Gas Leasing and Development Sequential Prioritization (IM 2016-143) provides guidance to the agency in the prioritization of sage-grouse habitat when making oil and gas leasing decisions. According to the IM, parcels that are not sage-grouse PHMA should be considered for leasing before parcels that include PHMA are considered. Further, the IM states

> Parcels in areas of lower-value sage-grouse habitat or further away from important life-history habitat features (for example, distance from any active sage-grouse leks) are more appropriate for consideration than parcels in higher-value habitat or closer to important life-history habitat features (i.e. lek, nesting, winter range areas). IM at 4. IM 2016-143 at 4.

Given these factors to be considered, the EA's statement that the lease parcels were prioritized under IM 2016 is difficult to understand. *See* EA at 5. First, the lease parcels include PHMA for the Sheeprocks sage-grouse population, which the BLM itself has stated is in jeopardy and is subject to the management prescriptions of a sage-grouse plan hard trigger. Second, the PHMA portions of the parcels include 1908.2 acres of sagebrush habitat used for two important sage-grouse life-history activities: winter habitat and brood-rearing. *See* Table 5, EA at 24. Importantly, the EA does not include any maps or other documents that identify the locations of winter range or brood-rearing habitat for greater sage-grouse throughout all of the parcel acreage. These must be included in the analysis in order to assess adequately the potential impacts to sage-grouse of this irretrievable resource commitment.

Leasing these parcels without fully delineating the sage-grouse winter habitat on them could have serious consequences for this imperiled population of sage-grouse. Doherty et al. (2008) demonstrated that greater sage grouse avoided otherwise suitable wintering habitats once they have been developed for energy production, even after timing and lek buffer stipulations had been applied. In addition, Carpenter et al. (2010) found that wintering sage grouse avoided otherwise suitable habitats within a 1.2-mile radius of wellsites. Dzialek et al. (2012: 12) confirmed these relationships for wintering sage grouse, and concluded:

> First, we can say with increasing confidence that the winter pattern of occurrence among sage-grouse shows consistency throughout disparate portions of its distribution. Second,

avoidance of human activity appears to be a general feature of winter occurrence among sage-grouse.

This indicates a broad consistency in sage grouse sensitivity to human development in wintering habitats throughout the species' range.

IV. The BLM should prepare an Environmental Impact Statement because the environmental conditions of this lease sale meet significance criteria under the National Environmental Policy Act (NEPA).

The next step for the BLM in this proposed lease sale should be the preparation of an Environmental Impact Statement (EIS), because environmental conditions meet context and significance criteria under NEPA: *See* 40 CFR §1508.27. The context is this potential lease sale's irretrievable commitment of resources that includes habitat for the Sheeprocks population of greater sage-grouse, which the BLM in prior NEPA analysis has characterized as being "in jeopardy." The Sheeprocks sage-grouse population has declined so rapidly that it has set off a hard trigger under the sage-grouse plans, with the result that its GHMA is now required to be managed as PHMA.

These environmental conditions also meet several NEPA significance criteria for intensity, including 3 (the unique characteristics of this geographical area include ecologically critical areas for an imperiled sage-grouse population), 4 (the effects of this decision are likely to be highly controversial because in February 2017 BLM declared the need to take mandatory additional conservation measures to protect this imperiled population of sage-grouse, yet the agency plans to offer this population's priority habitat for oil and gas leasing, 5 (the effects will be highly uncertain because the BLM acknowledges that it does not know the level of sage-grouse use of this area), and 6 (because it is the first triggering of adaptive management under the Utah ARMPA, it may establish a precedent for whether the BLM allows oil and gas leasing on sage-grouse priority habitat in other, future locations where a hard trigger for adaptive management is in force).

NEPA demands that a federal agency prepare an EIS before taking a "'major [f]ederal action[] *significantly* affecting the quality' of the environment."[4] In order to determine whether a project's impacts may be "significant," an agency may first prepare an Environmental Assessment ("EA").[5] If the EA reveals that "the agency's action may have a significant effect upon the . . . environment, an EIS must be prepared."[6]

The issues discussed above show that the potential impacts that the proposed action could have on the environment are indeed significant, which compels the preparation of an EIS. These factors include:

- the potential changes that climate change may cause as a result of oil and gas operations;

[4] *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (emphasis added).
[5] 40 C.F.R. §§ 1501.4, 1508.9.
[6] *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001) (internal quotations omitted).

- the speculative nature of the quantity of drilling activity that could possibly occur in the next twenty years on federal, state, and private lands;

- the threat well-development poses to public health and safety; and

- the potentially devastating impacts of increased oil and gas development on BLM-sensitive species and other species of concern

An EIS must be prepared if substantial "questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor."[7] It is not necessary to show that significant effects will in fact occur; raising substantial questions about whether a project *may* have a significant effect is enough to trigger BLM's obligation to prepare an EIS.[8] Because the aforementioned impacts are likely to have a significant effect on the environment, BLM is legally required under NEPA to prepare an EIS.

In considering whether the proposed oil and gas leasing would have significant effects on the environment, NEPA's regulations require BLM to evaluate ten factors regarding the "intensity" of the impacts.[9] The existence of any "one of these factors may be sufficient to require preparation of an EIS."[10] Several of these "significance factors" are implicated in this proposed action and clearly warrant the preparation of an EIS:

- The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
- The degree to which the proposed action affects public health or safety.
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.[11]

Here, individually and considered as a whole, there is no doubt that significant effects may result from this proposal; thus, NEPA requires that BLM must prepared an EIS for the action.

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[7] *Ocean Advocates v. United States Army Corps of Eng'rs*, 402 F.3d 846, 864-65 (9th Cir. 2005) (internal quotes omitted).
[8] *Id*.
[9] 40 C.F.R. § 1508.27(b); *see also Center for Biological Diversity, et al. v. Bureau of Land Management, et al.*, 937 F. Supp. 2d 1140, 1155-59 (holding that oil and gas leases were issued in violation of NEPA where BLM failed to prepare an EIS and failed to properly address the significance factors for context and intensity in 40 C.F.R. § 1508.27).
[10] *Ocean Advocates*, 402 F.3d at 865; *Nat'l Parks & Conservation Ass'n*, 241 F.3d at 731.
[11] 40 C.F.R. § 1508.27(b)(4), (5), (2) & (9); *See Center for Biological Diversity*, 937 F. Supp. 2d at 1158-59 (holding that BLM failed to properly address the significance factors regarding controversy and uncertainty that may have been resolved by further data collection (citing *Native Ecosystems Council v. U.S. Forest Serv*., 428 F.3d 1233, 1240 (9th Cir. 2005)).

A. **The Effects On The Human Environment Will Be Highly Controversial**

A proposal is highly controversial when "substantial questions are raised as to whether a project . . . may cause significant degradation" of a resource, *Nw. Envtl. Def. Ctr. v. Bonneville Power Admin.*, 117 F.3d 1520, 1536 (9th Cir. 1997), or when there is a "substantial dispute [about] the size, nature, or effect of the" action. *Blue Mtns. Biodiversity*, 161 F.3d at 1212. A "substantial dispute exists when evidence, raised prior to the preparation of [a] . . . FONSI, casts serious doubt upon the reasonableness of an agency's conclusions." *Nat'l Parks & Conserv. Ass'n*, 241 F.3d at 736. When such a doubt is raised, "NEPA then places the burden on the agency to come forward with a 'well-reasoned explanation' demonstrating why those responses disputing the EA's conclusions 'do not . . . create a public controversy.'" *Id.* See *Ctr. for Biological Diversity*, 937 F. Supp. 2d 1140.

BLM's EA provides abundant evidence that oil and gas operations can cause significant impacts to human health, water resources, air quality, imperiled species, and recreation. In addition, the EA acknowledges, "[i]t is accepted within the scientific community that global temperatures have risen at an increased rate and the likely cause is gases that trap heat in the atmosphere." EA at 17. It goes on to say that climate change may lead to changes, such as increased drought and wildland fire potential, in Utah. EA at 19. BLM itself admits that drilling and ensuing combustion resulting from this lease sale, together with other reasonably foreseeable development, "could contribute to cumulative GHG emissions." EA at 37

While offering the parcels for lease would not result in direct emissions of air pollutants, the future development of said leases would result in emissions of GHG, criteria, and HAP pollutants. EA at 27. Later development of any sold leases would result in both short- and long-term emissions of pollutants, including GHGs. Id. The EA, however, improperly declines to engage in any air quality analysis or modeling. EA at 27. The level of controversy associated with climate change, air pollution from oil and gas operations, and the impacts of hydraulic fracturing in association with the lease sale is sufficient to trigger the need for an EIS. 40 C.F.R. § 1508.27(b)(4).

1. **The Lease Sale Presents Highly Uncertain Or Unknown Risks**

An EIS must also be prepared when an action's effects are "highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27(b)(5). Preparation of an EIS is "mandated where uncertainty may be resolved by further collection of data, or where the collection of such data may prevent speculation on potential . . . effects."[12] According to BLM's EA, it is highly uncertain whether or where wells will be drilled on the leased parcels. EA at 9. NEPA dictates that the way to address such uncertainties is through the preparation of an EIS.

In addition, as noted above, substantial uncertainty exists regarding sage-grouse use of the affected areas. Under NEPA and its regulations, the proper mechanism for addressing this uncertainty is through preparation of an EIS.

[12] *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1240 (9th Cir. 2005) (internal citations omitted).

2. The Lease Sale Poses Threats To Public Health And Safety

The oil and gas activities that may occur as a result of the lease sale could cause significant impacts to public health and safety. 40 C.F.R. § 1508.27(b)(2). Drilling would pose a grave threat to the region's water resources, harm air quality, fuel climate change, and negatively affect wildlife. BLM's EA acknowledges that oil and gas exploration and production operations can result in emissions of hazardous air pollutants, oxides of nitrogen, volatile organic compounds, and particulate matter. EA at 26.

The BLM claims, contrary to its own RFD scenario and practice in other lease sale EAs, that it cannot predict the number of wells that would be developed on any particular parcel. Additionally, it cannot confidently estimate what methods of well development may or may not be employed by any successful bidder of a nominated parcel. EA at 9-10 . Yet numerous readily-foreseeable methods of well development pose a major and inadequately disclosed risk to public health and safety, and therefore constitute a significant impact. BLM therefore must evaluate such impacts in an EIS.

3. The Action May Adversely Affect Candidate And Agency Sensitive Species And Their Habitat

An EIS may also be required when an action "may adversely affect an endangered or threatened species or its habitat." 40 C.F.R. § 1508.27(b)(9). Although a finding that a project has "some negative effects does not mandate a finding of significant impact," an agency must nonetheless fully and closely evaluate the effects on listed species and issue an EIS if those impacts are significant. *Klamath-Siskiyou Wildlands Ctr. v. U.S. Forest Serv.*, 373 F. Supp. 2d 1069, 1081 (E.D. Cal. 2004) (finding agency's conclusion that action "may affect, is likely to adversely affect" species due to "disturbance and disruption of breeding" and "degradation" of habitat is "[a]t a minimum, . . . an important factor supporting the need for an EIS"). As discussed in sections II-III above, the proposed action would adversely affect a population of greater sage-grouse that has already triggered additional protective measures under the governing Resource Management Plan due to the precarious state of the Sheeprocks grouse population.

V. The BLM should grant no exceptions or waivers to NSO stipulations, and if requests for exceptions or waivers are made, the BLM should conduct a public comment period per 43 CFR §3101.1-4.

The undersigned groups strongly oppose including parcels with sage-grouse PHMA in this proposed lease sale for all of the reasons stated above. (These are parcels 001, 002, 003, and 007). Nevertheless, if the BLM proceeds to offer these parcels for lease, the BLM should include as a provision of the lease that there will be no exceptions or waivers to NSO stipulations in PHMA. If the BLM is unwilling to take even that extremely modest step, then if a lessee requests exceptions or waivers to NSO stipulations, the BLM should conduct a public comment period as is allowed per 43 CFR §3101.1-4 - Modification or waiver of lease terms and stipulations. Such a public comment period should be publicized, including posting notice and NEPA documentation online.

VI. The BLM's proposed stipulations for the nine proposed parcels are inadequate to protect the area's biological resources.

BLM argues that, despite the classification of the lands in question as PHMA and its acknowledgment that "parcels 002 and 007 have the greatest potential to directly or indirectly impact sage-grouse and sagebrush habitat by oil and gas activities (i.e. exploration, construction, operations, increased noise, human activity, and traffic)", that their condition makes them unsuitable for sage-grouse lekking. EA at 34. BLM argues that "given the current condition of the habitat being primarily dominated by juniper and sagebrush patches are fragmented and lack connectivity; and the distance of the parcels are greater than 3.1 miles from the lek, the risk of any direct and indirect impacts is substantially reduced." EA at 34. This conclusory assertion ignores the substantial evidence that sage-grouse rely on a variety of landscape and habitat features for its life needs besides the lek location – including winter range, foraging habitat, and brood-rearing habitat. BLM acknowledges that sage-grouse habitat is present within the proposed parcels, EA at 24, but that "[i]t is unknown at the time the level of sage-grouse use in this portion of the PHMA."

Given the uncertainty about grouse use of the affected parcels, coupled with the increased management attention required for the at-risk Sheeprocks population, BLM's standard grouse stipulations are inadequate to ensure the viability of this population. Indeed, placing a heavy focus on habitat protection around leks is not suitable for ensuring the viability of sage grouse populations. Studies have shown that both nest and brood rearing habitats are on average 6 km from leks, and it is not until 10 km from leks that one reaches the threshold where 90% of the habitat occurs.[13] Johnsgard indicated that there was no obvious relationship between lek location and nest site. In 5 different studies involving more than 300 nests the average distance between lek and Sage-grouse nest where the females was first seen or captured was 3.5 mi (5.6 km).[14] Nesting distances could be much greater than this average. For example, a majority (~90%) of nesting and brood-rearing habitat was within 10 km (6.2 miles) of active leks in Alberta;[15] 97 percent of nests were found within 6.2 miles of leks where females were marked in the Powder River Basin in Montana and Wyoming.[16] Walker et al. found in another study that the impacts from energy development on lek persistence and nesting were still apparent at a distance of 6.4 km from the disturbance.[17]

As previously mentioned, although leks are important focal points for breeding and subsequent nesting in the surrounding region, other seasonal use areas and habitat requirements may be

[13] Aldridge, Cameron L. and Mark S. Boyce, Linking Occurrence and Fitness to Persistence: Habitat-Based Approach for Endangered Greater Sage-Grouse. Ecological Applications 17(2):508-526 (2007). ("Aldridge and Boyce").
[14] Johnsgard, P.A. Grassland grouse and their conservation. Smithsonian Institution Press, Washington and London (2002).
[15] Aldridge and Boyce. 2007.
[16] Doherty, K. E. et al., Greater Sage-grouse nesting habitat: the importance of managing at multiple scales, J. Wildl. Manage. 74(7): 1544-1553 (2010)

[17] Walker, B.L., et al., Greater sage-grouse population response to energy development and habitat loss, 71 Journal of Wildlife Management 2644 (2007).

equally limiting to sage grouse populations.[18] Brood occurrence is greater in more heterogeneous sagebrush stands, where patchy cover reduces predator efficiency but still affords necessary forb resources. Sage-grouse are more abundant in patchy habitats containing a mix of mesic, forb-rich foraging areas interspersed within suitable sagebrush escape cover.[19] Broods are typically found in areas near nest sites for the first 2 to 3 weeks after hatching. Such habitat needs to provide adequate cover and areas with sufficient forbs and insects to ensure chick survival in this life stage. [20]

Moreover, the undersigned groups note with great concern that the sage-grouse stipulations that the BLM has proposed for the parcels that include PHMA (Parcels 001, 002, 003, and 007) are derived from current sage-grouse management policy as expressed in the Utah ARMPA. In March 2017, Secretary of the Interior Ryan Zinke stated publicly that federal sage-grouse management will change. *See* Hier 2017. There is a real question as to whether the Utah ARMPA and other BLM sage-grouse plans will be rescinded or weakened. [21] This is significant because if the NSO stipulations in the Utah ARMPA are not operative, BLM's assumptions regarding sage-grouse management and population can no longer hold.[22]

VII. The EA Fails to Disclose or Analyze Significant Impacts to Mule Deer, Elk, and Their Critical Seasonal Ranges

The proposed lease sale parcels overlap mule deer and elk crucial winter ranges. EA at 32. The EA acknowledges that disturbance to mule deer habitat from energy development can pose significant adverse effects on habitat use, survival, and recruitment. *Id*. The EA, however, then goes on to dismiss these impacts by stating, wholly without support, that BLM's lease stipulations "would protect these resources by limiting disturbance within this habitat during the time period when it would have the most detrimental impact." EA at 32. The EA's minimal cumulative impacts discussion further, wholly without any analysis or quantification whatsoever, makes the conclusory assertion that "[t]here could potentially be additional disturbance to habitat yet not enough to effect the population of local deer and elk populations." EA at 38.

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[18] Knick, Steven T. et al., Modeling ecological minimum requirements for distribution of greater sage-grouse leks: implications for population connectivity across their western range, U.S.A., 3 Ecology and Evolution 6: 1539 (2013)

[19] Manier, et al., Conservation buffer distance estimates for Greater Sage-Grouse—A review: U.S. Geological Survey Open-File Report 2014–1239, http://dx.doi.org/10.3133/ofr20141239 (2013)

[20] Ibid.

[21] The uncertain status of the BLM sage-grouse plans is reported at length in Streater, Scott. (February 23, 2017) "Will Trump revamp complex plan to save endangered sage grouse?" Science Magazine. Available at http://www.sciencemag.org/news/2017/02/will-trump-revamp-complex-plan-save-endangered-sage-grouse.

[22] See BLM Fillmore Field Office, Decision Record for Fillmore Field Office Oil and Gas Implementation (2009) (stating "Fillmore Field Office's land use planning decisions do not have stipulations for the management or protection of sage grouse or current and historical Bonneville cutthroat trout habitats. Neither do these decisions have stipulations for the management or protection of the Pony Express National Historic Trail, as this trail wasn't analyzed as part of the existing planning decisions. Therefore, until such time as the BLM completes a land use plan revision or amendment, leasing within sage grouse habitats for winter range, nesting, brood rearing and leks, current or historical Bonneville cutthroat trout habitats, or within or adjacent to the Pony Express National Historic Trail, will not be considered.")

These conclusory and unsupported assertions ignore significant new and additional research showing adverse effects to mule deer migrations and population from energy development, including in Colorado's Piceance Basin. It further fails to justify BLM's refusal to engage in actual site-specific assessment of effects on particular deer subpopulations, winter use areas, and/or migration corridors. Merely describing the "the *category* of impacts anticipated from oil and gas development" fails to meet NEPA's hard look requirement when it is reasonable for BLM to do more. *See New Mexico*, 565 F.3d at 707 (emphasis original). "NEPA does not permit an agency to remain oblivious to differing environmental impacts, or hide these from the public, simply because it understands the general type of impact likely to occur. Such a state of affairs would be anathema to NEPA's 'twin aims' of informed agency decisionmaking and public access to information." *Id.*

Research shows that residential and energy development has reduced all ungulates across the West. The low-elevation valleys and mountain foothills, once important habitat for ungulates, are filled with cities and towns.[23] The same is true particularly on winter ranges.[24] For example, between 1980 and 2010, western Colorado saw a 37% increase in residential land-use in mule deer habitat, primarily on their winter range.[25] The resulting lack of high-quality winter range is limiting robust mule deer population growth.[26]

A dearth of high-quality, long-term, and controlled studies makes it difficult to evaluate with precision the role of oil and gas development in mule deer habitat and population decline.[27] Clearly, mule deer demonstrate avoidance of roads and oil and gas infrastructure, with as-yet inadequately-understood consequences for migration, energy budgets, adult and fawn survival, and population.[28]

Some of the best available long-term, controlled studies evaluate mule deer population density before and after oil and gas development in the Sublette mule deer herd near Pinedale, Wyoming.[29] The Sublette mule deer study compared mule deer density in control and development zones, and found mule deer densities declined 30% in the development area, as opposed to 10% in the control area.[30] Sawyer and Strickland found that "the observed decline of

[23] Polfus, J. L., and P. R. Krausman. 2012. Impacts of residential development on ungulates in the Rocky Mountain West. Wildlife Society Bulletin 36:647-657.
[24] Johnson, H.E., et al. 2016. Increases in residential and energy development are associated with reductions in recruitment for a large ungulate. Global Change Biology, doi: 10.1111/gcb.13385 ("Johnson et al. 2016").
[25] Johnson et al. 2016.
[26] Bergman, E. J.,et al. 2015. Density dependence in mule deer: a review of evidence. Wildlife Biology 21:18-29; Johnson et al. 2016.
[27] Hebblewhite, Mark. 2011. Effects of Energy Development on Ungulates. Energy Development and Wildlife Conservation in Western North America 71-94. Island Press, Washington D.C.
[28] Hebblewhite 2011; Sawyer, H., et al. 2013. A framework for understanding semi-permeable barrier effects on migratory ungulates. Journal of Applied Ecology 2013:50, doi:10.1111/1365-2664.12013; Lendrum, P.E. et al.. 2012. Habitat selection by mule deer during migration: effects of landscape structure and natural-gas development. Ecosphere 3(9):82.
[29] Sawyer, H., R. Nielson, and D. Strickland. 2009. Sublette Mule Deer Study (Phase II): Final Report 2007. Western Ecosystems Technology, Inc. Cheyenne, Wyoming, USA.
[30] *Id.*

mule deer in the treatment area was likely due to gas development, rather than drought or other environmental factors that have affected the entire Sublette Herd unit."[31]

The Sublette example is particularly important when considering energy development's effects on mule deer populations, their winter range, and their migration patterns in sagebrush habitats of the west. For example, even in its relatively early stages compared to Wyoming, the most recent spatial analysis of already-occurring effects on mule deer in western Colorado finds energy development has the second-largest effect on deer recruitment, exceeded only by residential development.[32]

Although the precise connections between energy development and population-level effects are still imperfectly understood, it is demonstrated that oil and gas development affects mule deer habitat use and migration patterns by causing site avoidance, particularly in daytime,[33] and creating "semi-permeable" barriers to migration routes.[34] CPW is currently engaged in multiple research efforts to evaluate energy development effects on migration, deer response to energy development, and fawn survival in developed and undeveloped areas.[35] Those studies have thus far documented how individual deer alter their migration speed and timing in response to development.[36] A 2015 Wildlife Research Report published by CPW found that, during an active drilling phase in the Piceance Basin, deer behavior was compromised by 25% (at nighttime) and by 50% (during day time) in critical mule deer winter range.[37]

In addition, it is well documented that human development causes direct habitat loss and fragmentation through the construction of infrastructure, and indirect habitat loss through deer avoidance of infrastructure and related activities; these consequences likely reduce the carrying capacity of the landscape.[38] A recent study shows that oil and gas development causes significant habitat loss in the Piceance Basin of Colorado:

> Energy development drove considerable alterations to deer habitat selection patterns, with the most substantial impacts manifested as avoidance of well pads with active drilling to a distance of at least 800 m. Deer displayed more nuanced responses to other infrastructure, avoiding pads with active production and roads to a greater degree during the day than night. In aggregate, these responses equate

[31] *Id.*
[32] Johnson et al. 2016.
[33] Lendrum 2012.
[34] Sawyer et al 2013.
[35] Anderson, C. R. 2015. Population Performance of Piceance Basin Mule Deer in Response to Natural Gas Resource Extraction and Mitigation Efforts to Address Human Activity and Habitat Degradation.in C. D. o. P. a. Wildlife, editor., Colorado ("Anderson 2015"); Anderson, C.R. 2016.; Anderson, C.R. and Bishop, C.J. 2014. Migration Patterns of Adult Female Mule Deer in Response to Energy Development. Transactions of the 79th North American Wildlife and Natural Resources Conference 47-50; Lendrum, P.E., et al. 2013. Migrating Mule Deer: Effects of Anthropogenically Altered Landscapes. PlosOne, 8:5:e64548.
[36] Lendrum 2012; Lendrum et al. 2013.
[37] Anderson 2015.
[38] Johnson et al. 2016.

> to alteration of behavior by human development in over 50% of the critical winter range in our study area during the day and over 25% at night.[39]

Additionally, mule deer may suffer higher mortality rates in developed landscapes because of increased vehicle collisions and accidents (i.e., entrapment in fences); moreover, increased road densities expose mule deer to more hunters, poachers and predatory domestic pets.[40]

Mule deer also need migration corridors that are protected from human development. An ongoing mule deer study by members of the Wyoming Migration Initiative has found that mule deer migration patterns are altered by human development – herds will move faster, stop less to feed, and detour around developed portions of their route.[41] Moreover, herds that can't migrate in search of the most nutritious grasses just end up smaller in number, plain and simple.[42] As a result, Wyoming Game and Fish Department is working to further protect migration routes in the state, for instance, no more than four oil and gas well pads allowed in a migration corridor and no development allowed in corridors narrower than a quarter mile. Although initial CPW research suggests that existing Piceance development levels are largely influencing the timing (not the fact) of deer migration,[43] CPW acknowledges that a "threshold in development intensity" may have greater effects on migration behavior.[44]

Despite the substantial evidence and concern regarding development effects on mule deer migration and behavior, the EA fails to provide any disclosure or analysis whatsoever of migration routes that may be affected by development on the proposed leases.

Moreover, none of the proposed lease parcel stipulations for protecting big game habitat, however, limit the density of development or obstruction of migration routes, but only limit timing. *See* EA at 32.

Finally, the BLM should take into account new information indicating that sagebrush—which wintering mule deer are highly dependent on—is nearly impossible to restore, such that fragmentation of sagebrush communities from oil and gas development is likely to be permanent and reclamation ineffective. Recent studies show that sagebrush communities, such as those found within the areas to be leased, are nearly impossible to restore. Drilling sites have not been restored to pre-drilling conditions even after having 20 or 50 years to recover.[45] A recent study found that 50 years or more would be required to recover sagebrush on disturbed sites, and that restoring heterogeneous soil conditions with patchy nutrient conditions, was necessary for

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[39] Northrup, J. M. et al. Quantifying spatial habitat loss from hydrocarbon development through assessing habitat selection patterns of mule deer, Global Change Biology (Aug. 2015), available at http://onlinelibrary.wiley.com/doi/10.1111/gcb.13037/epdf.
[40] Johnson et al. 2016.
[41] Sawyer 2013.
[42] Edwards, M., Mule Deer Struggling To "Surf The Green Wave" Of Migration (Nov. 20, 2015) available at http://wyomingpublicmedia.org/post/mule-deer-struggling-surf-green-wave-migration.
[43] Anderson & Bishop 2014.
[44] Anderson 2016; Sawyer 2013.
[45] Lester, Liza, Sagebrush Ecosystem Recovery Hobbled By Loss Of Soil Complexity At Development Sites, Ecological Society of America (Jan. 26, 2015), available at http://www.esa.org/esa/sagebrush-ecosystem-recovery-hobbled-by-loss-of-soil-complexity-at-development-sites/.

recovery of large sagebrush and ecosystem resiliency.[46] There is no evidence, however, that any measures required by the RMP-EISs here ensure attainment of these conditions. Thus, oil and gas development could have more significant effects on mule deer and other big game than previously anticipated in the RMP-EISs, but those impacts have not been analyzed in the EA. *See* IM 2010-117 (directing site-specific analysis of whether "[t]he topographic, soils, and hydrologic properties of the surface will not allow successful final landform restoration and revegetation in conformance with the standards found in Chapter 6 of the Gold Book, as revised").

VIII. Additional wildlife mitigation to compensate for outdated wildlife range information in the approximately 30-year-old Resource Management Plan should be mandatory, enforceable, and committed to in the DR/ROD for this proposed lease sale.

The National Environmental Policy Act (NEPA) requires that all federal government agencies take a "hard look" at the environmental impacts of any federal agency action and consider all alternatives that minimize such impacts. 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1500.1, 1502.14; *see, e.g., Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1239 (9th Cir. 2005). Courts have found that "[a]n agency's NEPA responsibilities do not end with the initial assessment," as NEPA "imposes a continuing duty to supplement previous environmental documents." *Price Road Neighborhood Ass'n v. U.S. Dept. of Transportation*, 113 F.3d 1505, 1509 (9th Cir. 1997); *see also Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 557 (9th Cir. 2000) ("an agency that has prepared an EIS [Environmental Impact Statement] cannot simply rest on the original document," but rather "must be alert to new information that may alter the results of its original environmental analysis").

In particular, NEPA requires an SEIS to be prepared if "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(1). Here, the increased potential for adverse effects to an at-risk population of greater sage-grouse, effects on deer and elk critical winter range, as well as new information regarding the "unique risks and concerns associated with fracking," trigger the preparation of an SEIS. *See Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d.1140, 1157 (N.D. Cal. 2013).

The EA states:

> Special stipulations for the protection of wildlife were identified in the HRRA RMP/ROD for areas where those resources were known. ***Since that time, however, additional information has become available and the ranges of some animals have expanded into areas that would not be protected with the stipulations***, as applied in the HRRA RMP/ROD or HRRA O&G Leasing Implementation EA. Oil and gas development activities that may follow the issuance of leases for the subject parcels could adversely affect wildlife. More specifically, oil and gas exploration and development could disrupt mule deer and elk seasonal behavioral patterns and use of near-by ranges. Increased

[46] *Id.*; Minnick, Tamara J., Plant–soil feedbacks and the partial recovery of soil spatial patterns on abandoned well pads in a sagebrush shrubland. Ecological Applications, 25(1), 2015, pp. 3–10, available at http://onlinelibrary.wiley.com/doi/10.1890/13-1698.1/full.

> occurrence of human, traffic, and infrastructure activities will contribute to further stress big game species primarily during the winter season. Big game animals are highly dependent on these ranges for forage and shelter during this critical period for survival and future reproduction. EA at 32, emphasis added.

The EA further states, "[t]o address potential impacts to wildlife, the Proposed Action alternative would include wildlife protection measures (which are identified in Table 1 and Appendix A) that would inform the lessee of action that ***may*** be taken at the project level to mitigate the impacts of exploration and development activities on wildlife species." EA at 32, emphasis added.

Since the BLM has acknowledged that the past NEPA analysis upon it is relying in this EA is out of date in regard to wildlife ranges and that additional mitigation is necessary, mitigation should be mandatory and enforceable. Commitment to this additional mitigation should be made in the DR/ROD for this lease sale.

IX. The EA relies on inaccurate assumptions regarding exploratory activities.

In the EA, BLM asserts that there is little difference between leasing and no-leasing alternatives, contending that "[a]lthough drilling and production activities on federal land surfaces are restricted to leased parcels, oil and gas exploration may also be authorized on unleased public lands, on a case-by-case basis, pursuant to 43 CFR 3150.0-1." EA at 34. BLM appears to draw this conclusion from the regulation's language, "[a]t the request of any other surface managing agency, the procedures in this part may be applied on a case-by-case basis to unleased public lands administered by such agency." 43 CFR 3150.0-1.

BLM goes on to state that "[a]ccordingly, this alternative would not prevent direct, indirect or cumulative environmental impacts relating to oil and gas exploration activities through denial of the proposed action. Additionally, this alternative would not prevent indirect impacts relating to rights of way authorizations to support oil and gas operations on adjacent leased lands." EA at 34.

BLM's argument ignores the important distinction in its own regulations between a narrowly-defined category of "geophysical exploration" activities and the wholly separate set of activities associated with drilling a well under a mineral lease. 43 CFR 3150.0-1 is just the purpose statement from the rules on geophysical exploration. Such exploration is expressly defined to <u>exclude</u> all drilling activities, which require a lease and an APD. 43 CFR 3150.0-5.

Under the definitions,

> Oil and gas geophysical exploration means activity relating to the search for evidence of oil and gas which requires the physical presence upon the lands and which may result in damage to the lands or the resources located thereon. It includes, but is not limited to, geophysical operations, construction of roads and trails and cross-country transit of vehicles over such lands. *It does not include* core drilling for subsurface geologic information or *drilling for oil and gas*; *these activities shall be authorized only by the issuance of an oil and gas lease and the approval of an Application for a Permit to Drill*.

> The regulations in this part, however, are not intended to prevent drilling operations necessary for placing explosive charges, where permissible, for seismic exploration.

43 CFR 3150.0-5 (emphasis added).

According to this definition, "oil and gas geophysical exploration" has a narrow and specific meaning and does not include drilling. Thus, BLM is misleading insofar as it suggests that because 43 CFR 3150.0-1 allows operators to do exploratory drilling even on leased lands, then leasing does not matter because drilling is inevitable. Thus, under BLM's own statutes and rules, exploration without a lease excludes all subsurface drilling. Therefore, BLM's suggestion that leasing and no-leasing alternatives are indistinguishable, because "exploration" will occur with or without leasing, is improper and contrary to its own rules.

Conclusion

The undersigned groups have serious concerns about the potential impacts of mineral development associated with the leased parcels identified in the EA, particularly those in greater-sage-grouse PHMA. We urge the BLM to withdraw the parcels that include PHMA from this lease sale, create an EIS, and fully commit to the protection of native wildlife species in this area.

Thank you again for this opportunity to assist the agency by providing comments for your review of the FFO Oil and Gas Lease Sale EA. If you have any questions or would like additional information, please contact Kelly Fuller at (928) 322-8449, kfuller@westernwatersheds.org and/or Michael Saul at (303) 915-8308, msaul@biologicaldiversity.org.

Please add the undersigned groups to the notification list for this EA process and any subsequent Applications for Permit to Drill, using our contact information below.

Sincerely yours,

Kelly Fuller
Energy Campaign Coordinator
Western Watersheds Project
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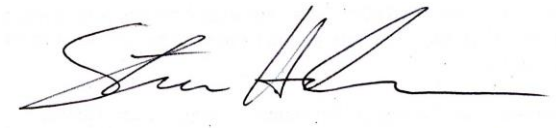

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Literature Cited

Aldridge, Cameron L. and Mark S. Boyce, Linking Occurrence and Fitness to Persistence: Habitat-Based Approach for Endangered Greater Sage-Grouse. Ecological Applications 17(2):508-526 (2007)

Anderson, C.R. and Bishop, C.J. 2014. Migration Patterns of Adult Female Mule Deer in Response to Energy Development. Transactions of the 79th North American Wildlife and Natural Resources Conference 47-50

Anderson, C. R. 2015. Population Performance of Piceance Basin Mule Deer in Response to Natural Gas Resource Extraction and Mitigation Efforts to Address Human Activity and Habitat Degradation.in C. D. o. P. a. Wildlife, editor., Colorado

Balzotti, C.S., S.G. Kitchen, and C. McCarthy.(2016) Beyond the single species climate envelope: a multifaceted approach to mapping climate change vulnerability. Ecosphere 7(9):e01444. 10.1002/ecs2.1444. Available at https://www.fs.fed.us/rm/pubs_journals/2016/rmrs_2016_balzotti_c001.pdf.

Bergman, E. J.,et al. 2015. Density dependence in mule deer: a review of evidence. Wildlife Biology 21:18-29

Carpenter, J., C. Aldridge, and M.S. Boyce. 2010. Sage-grouse habitat selection during winter in Alberta. Journal of Wildlife Management 74:1806-1814. Available at https://albertawilderness.ca/wordpress/wp-content/uploads/20101100_rp_sage-grouse_winter_habitat_selection_boyce_etal.pdf.

Doherty, K.E., D.E. Naugle, B.L. Walker, and J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. Journal of Wildlife Management 72:187–195. Available at https://www.researchgate.net/publication/227729373_Greater_Sage-Grouse_Winter_Habitat_Selection_and_Energy_Development.

Dzialak, M. R., C. V. Olson, S. M. Harju, S. L. Webb, and J. B. Winstead. 2012. Temporal and hierarchical spatial components of animal occurrence: conserving seasonal habitat for greater sage-grouse. Ecosphere 3:30. Available at http://onlinelibrary.wiley.com/doi/10.1890/ES11-00315.1/pdf.

Edwards, M., Mule Deer Struggling To "Surf The Green Wave" Of Migration (Nov. 20, 2015) available at http://wyomingpublicmedia.org/post/mule-deer-struggling-surf-green-wave-migration

Federal Register. (October 2, 2015) Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List Greater Sage-Grouse (*Centrocercus urophasianus*) as an Endangered or Threatened Species. Vol. 80, No. 191. Available at https://www.gpo.gov/fdsys/pkg/FR-2015-10-02/pdf/2015-24292.pdf.

Hebblewhite, Mark. 2011. Effects of Energy Development on Ungulates. Energy Development and Wildlife Conservation in Western North America 71-94. Island Press, Washington D.C

Henrie, Jessica. (April 12, 2016) More Greater sage-grouse released near Sheeprocks. Tooele Transcript Bulletin. Available at http://tooeleonline.com/more-greater-sage-grouse-released-near-sheeprocks/.

Hier, Corbin. (March 28, 2017) Zinke looks West for deputies and priorities, rejected VA job. E & E News. Available at https://www.eenews.net/stories/1060052219.

James, Bill, Utah Department of Wildlife Resources. (December 6, 2016) Appendix 1. Email to Kent Hoffman, Utah BLM State Office.

James, Bill, Utah Department of Wildlife Resources. (April 14, 2017) Appendix 1. Email to Kelly Fuller, Western Watersheds Project.

Johnsgard, P.A. Grassland grouse and their conservation. Smithsonian Institution Press, Washington and London (2002).

Johnson, H.E., et al. 2016. Increases in residential and energy development are associated with reductions in recruitment for a large ungulate. Global Change Biology, doi: 10.1111/gcb.13385

Knick, Steven T. et al., Modeling ecological minimum requirements for distribution of greater sage-grouse leks: implications for population connectivity across their western range, U.S.A., 3 Ecology and Evolution 6: 1539 (2013)

Lendrum, P.E. et al.. 2012. Habitat selection by mule deer during migration: effects of landscape structure and natural-gas development. Ecosphere 3(9):82

Lendrum, P.E., et al. 2013. Migrating Mule Deer: Effects of Anthropogenically Altered Landscapes. PlosOne, 8:5:e64548

Lester, Liza, Sagebrush Ecosystem Recovery Hobbled By Loss Of Soil Complexity At Development Sites, Ecological Society of America (Jan. 26, 2015), available at http://www.esa.org/esa/sagebrush-ecosystem-recovery-hobbled-by-loss-of-soil-complexity-at-development-sites/

Manier, et al., Conservation buffer distance estimates for Greater Sage-Grouse—A review: U.S. Geological Survey Open-File Report 2014–1239, http://dx.doi.org/10.3133/ofr20141239 (2013)

Minnick, Tamara J., Plant–soil feedbacks and the partial recovery of soil spatial patterns on abandoned well pads in a sagebrush shrubland. Ecological Applications, 25(1), 2015, pp. 3–10, available at http://onlinelibrary.wiley.com/doi/10.1890/13-1698.1/full

Northrup, J. M. et al. Quantifying spatial habitat loss from hydrocarbon development through assessing habitat selection patterns of mule deer, Global Change Biology (Aug. 2015), available at http://onlinelibrary.wiley.com/doi/10.1111/gcb.13037/epdf

O'Donoghue, Amy Joi. (April 22, 2016) Sagebrush project creates landscape of cooperation. Deseret News. Available at http://www.deseretnews.com/article/865652791/Sagebrush-project-creates-landscape-of-cooperation.html.

Polfus, J. L., and P. R. Krausman. 2012. Impacts of residential development on ungulates in the Rocky Mountain West. Wildlife Society Bulletin 36:647-657

Sawyer, H., R. Nielson, and D. Strickland. 2009. Sublette Mule Deer Study (Phase II): Final Report 2007. Western Ecosystems Technology, Inc. Cheyenne, Wyoming, USA

Sawyer, H., et al. 2013. A framework for understanding semi-permeable barrier effects on migratory ungulates. Journal of Applied Ecology 2013:50, doi:10.1111/1365-2664.12013

Streater, Scott. (February 23, 2017) "Will Trump revamp complex plan to save endangered sage grouse?" Science Magazine. Available at http://www.sciencemag.org/news/2017/02/will-trump-revamp-complex-plan-save-endangered-sage-grouse.

U.S. Bureau of Land Management. (2016) Decision Record for the Firebirds Motorcycle Race. Available at https://eplanning.blm.gov/epl-front-office/projects/nepa/57952/72576/79624/Sheeprock_Tintic_Firebird_DR.pdf.

U.S. Bureau of Land Management. (2016) Decision Record for the Government Creek Greater Sage-Grouse Habitat Improvement Project. Available at https://eplanning.blm.gov/epl-front-office/projects/nepa/57254/74263/81670/Gov't_Creek_DR_2016-05-19.pdf.

U.S. Bureau of Land Management. (2017) Environmental Assessment: DOI-BLM-UT-W020-2017-0001-EA: September 2017 Oil and Gas Lease Sale. Available at https://eplanning.blm.gov/epl-front-office/projects/nepa/69557/101739/123909/September_2017_Oil_Gas_Lease_Draft_EA_Final_Version.pdf.

U.S. Bureau of Land Management. (2016) Instruction Memorandum 2016-143: Implementation of Greater Sage-Grouse Resource Management Plan Revisions or Amendments – Oil and Gas Leasing and Development Sequential Prioritization. Available at https://www.blm.gov/policy/im-2016-143.

U.S. Bureau of Land Management press release. (February 6, 2017) BLM implements measures to restore and maintain habitat for the Sheeprocks greater sage-grouse population in central Utah. Available at https://www.blm.gov/press-release/blm-implements-measures-restore-and-maintain-habitat-sheeprocks-greater-sage-grouse.

U.S. Bureau of Land Management. (2015) Utah Greater Sage-Grouse Approved RMP Amendment. Available at https://eplanning.blm.gov/epl-front-office/projects/lup/68351/87600/104856/Utah_ARMPA.pdf.

U.S. Fish and Wildlife Service. (2013) Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report. Available at

https://www.fws.gov/greatersagegrouse/documents/COT-Report-with-Dear-Interested-Reader-Letter.pdf.

Utah Department of Natural Resources. (April 21, 2016) Utah Department of Natural Resources Partners with USDA for State's Watershed Restoration Initiative. Available at https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ut/newsroom/releases/?cid=NRCSEPRD942010.

Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. Journal of Wildlife Management 71:2644-2654. Available at http://www.oilandgasbmps.org/docs/GEN08-SageGrousestudybyNaugle.pdf.

Appendix 1

Western Watersheds Project

Kelly Fuller <kfuller@westernwatersheds.org>

Fwd: Pre-lease review: August 2017 Competitive Oil and Gas Lease Sale

1 message

Bill James <billjames@utah.gov> Fri, Apr 14, 2017 at 1:04 PM
To: kfuller@westernwatersheds.org

Kelly,

Appended are the brief wildlife data which I sent the BLM on Dec. 6 of last year. Of course these data were developed by my regional colleagues, who know the sites, and they would have drawn from our locational data gathered over the years. I think the parcels pertained to a once-planned August 2017 lease sale, which they (BLM) may have pushed back into September for the current planning. The Sale / Parcel ID numbers should clarify any question about which parcels we were describing.

Bill James
Utah Division of Wildlife Resources
801-538-4752

---------- Forwarded message ----------
From: **Bill James** <billjames@utah.gov>
Date: Tue, Dec 6, 2016 at 2:52 PM
Subject: Pre-lease review: August 2017 Competitive Oil and Gas Lease Sale
To: khoffman@blm.gov
Cc: cledbett@blm.gov, rbankert@blm.gov, rnaeve@blm.gov, "Wysong, Sheri" <swysong@blm.gov>, Leslie Wilcken <lwilcken@blm.gov>

Mr. Hoffman:

We have assembled an overview of wildlife facts which may influence BLM's analysis of lease parcels being considered for offer during the August 2017 public sale.

The parcels are within 5 miles of an active sage grouse lek, and there are multiple sage-grouse sightings from the 1990's within about a mile of the northernmost parcels (UT0817-8612-002 and UT-0817-8611-001). The parcels are also in burrowing owl habitat, and there are multiple raptor sightings and nests within a mile or two.

Parcel number UT-0817-8611-001 is within 0.5 miles of a 2006 burrowing owl sighting.

Parcel numbers UT-0817-8612-002 and UT-0817-8617-007 are within 1 mile of multiple active burrowing owl burrows observed in 2002.

Burrowing owls have been observed about 0.8 miles east of UT-0817-8616-006. We have many records of long-billed curlew observations near UT-0817-8616-006. Our biologists suspect that curlews are widely distributed throughout the immediate area at certain times of year, and the observations are likely associated with the Breeding Bird Survey route established along that road.

Two ferruginous hawk nests were observed in 2006 about two miles west of UT-0817-8617-007.

Thank you...

Bill James
Utah Division of Wildlife Resources
801-538-4752